



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

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FEB 20 2014

Ref: 8EPR-N

Daniel N. Wenk, Superintendent  
Yellowstone National Park  
Attn: Bison Remote Vaccination FEIS  
P.O. Box 168  
Yellowstone National Park, WY 82190

Re: Remote Vaccination Program to  
Reduce the Prevalence of Brucellosis in  
Yellowstone Bison Final EIS Comments  
CEQ# 20140015

Dear Superintendent Wenk:

The U.S. Environmental Protection Agency Region 8 has reviewed the U.S. Department of Interior (USDI) National Park Service (NPS) Final Environmental Impact Statement (EIS) for the Yellowstone National Park Remote Vaccination Program to Reduce the Prevalence of Brucellosis in Yellowstone Bison. Our review was conducted in accordance with the EPA's responsibilities under section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act.

### Background

Directed under the 2000 Record of Decision (ROD) for the Interagency Bison Management Plan, the NPS was charged with evaluating the development and implementation of a remote delivery vaccination program to decrease the prevalence of brucellosis in Yellowstone bison. The disease can induce abortions in bison, elk and cattle. The NPS outlined the following goals of the program: 1) decrease the probability of individual bison shedding the bacteria *Brucella abortus*, 2) lower the brucellosis infection rate of Yellowstone bison, and 3) reduce the risk of brucellosis transmission to cattle outside the park, thus preserving the annual migration onto essential winter ranges in Montana.

The Final EIS considered three alternatives. Alternative A, the No Action Alternative, continues with the current hand vaccination program at Stephens Creek capture facility while maintaining the existing adaptive management process to increase knowledge about the disease and address uncertainties. Under this alternative, the adaptive management process also seeks to develop or improve suppression techniques that could be used to facilitate effective outcomes, minimize adverse impacts, and lower operational costs. The NPS has identified this alternative as the Preferred Alternative. Alternative A is also identified as the Environmentally Preferred

Alternative in accordance with the USDI's NEPA regulations (43 CFR 46) and CEQ's Forty Questions, citing that this alternative causes the least damage to the biological and physical environment, which best protects, preserves, and enhances historic, cultural and natural resources.

Alternative B combines the utilization of the existing hand vaccination program at Stephens Creek with a remote delivery strategy that would focus exclusively on young, non-pregnant bison. The adaptive management process would also continue under this alternative. Finally, Alternative C contains the same components as Alternative B, but also includes the remote vaccination of adult females.

### **Comments and Recommendations**

The EPA supports the NPS's selection of Alternative A, the No Action Alternative, as its Preferred Alternative based on substantial uncertainties associated with the implementation of a remote delivery vaccination program. The uncertainties summarized by the NPS include vaccine efficacy, vaccine delivery, duration of the vaccine-induced protective immune response, diagnostics, bison behavior, and evaluation of public comments (p. 50 FEIS). The Final EIS also acknowledges that vaccination is unlikely to be effective at substantially reducing brucellosis prevalence without the removal of infected animals, including elk, which serve as the primary transmission source.

### ***Potential Impacts***

In the July 14, 2010 letter, the EPA commented on other concerns related to uncertainties not discussed in the Draft EIS, which included the environmental risks of the virus from a live-culture biobullet missing its intended target and being disseminated into the environment. We acknowledge that the Preferred Alternative selected does not include a remote delivery strategy. However, we provide the following comments and recommendations in the event that future adaptive management decisions result in the use of this strategy. The Final EIS states that when a biobullet is delivered to muscle tissue it dispenses the vaccine product within a few hours and the casing is dissolved by muscle tissue fluids in 12-24 hours (p. 42). However, if disseminated to the field, the live *Brucella abortus* bacteria strain (Strain RB51) is expected to be viable in the environment for a few months or weeks depending on environmental conditions (p. 108). This information is important as it relates to potential hazards if a Park visitor or hunter comes into contact with a loaded casing left behind in the ecosystem.

When evaluating wildlife impacts, the Final EIS discusses the possibility of inadvertent exposure to the vaccine from doses that deflect from the intended target, lodge on the surface of the ground, and are eaten by non-target animals. The Final EIS states that the amount of vaccine that would be left in the environment would be "quite small per deflected dose" and that "adverse impacts of this type of failure would be indirect, short term, minor, and local as a result of the short-term viability of the bacteria," but only these general details are included (p. 108). The document also states there is a low probability that any wildlife species would eat the projectile, and that there are no unacceptable clinical effects (*e.g.*, abortions) in non-target species that were studied, citing supporting data.

When evaluating human health and safety effects, the Final EIS focused on occupational exposure risks associated with NPS employees implementing the program and lab employees packaging the vaccination. Although there was some discussion of potential hunter safety (e.g., exposure from careless field dressing of game or meat consumption within 21 days of vaccinations), the Final EIS did not investigate the potential adverse effects of the public inadvertently handling biobullets, but concluded that "no impacts to visitor safety are expected" (pp. 117, 118). Mitigation measures were suggested in general terms stating that the program would be implemented in areas distant from impending or ongoing hunting to avoid or minimize human health concerns, but this was in terms of the risk associated with harvesting recently vaccinated bison rather than a discharged biobullet.

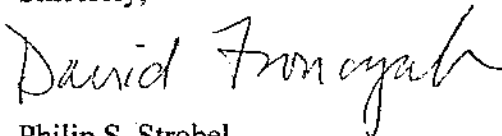
### *Recommendations*

Under Alternative A, the adaptive management process component is designed to assist in addressing uncertainties when evaluating how to successfully decrease the prevalence of brucellosis in bison while protecting and preserving park resources. The EPA agrees with the NPS that monitoring and adaptive management are appropriate to use where impacts may be uncertain and future monitoring is necessary to make adjustments to subsequent actions or implementation decisions. As part of the adaptive management process, the EPA recommends that additional analysis be conducted to include any unintended consequences as a result of the public coming into contact with a projectile found in the environment if there is a potential that a remote delivery vaccination program will be implemented in the future. We also recommend that mitigation and safety measures be developed to reduce risks associated with potential public contact scenarios in the case that Alternative B or Alternative C becomes a viable option. At a minimum, focused public outreach describing potential health risks, outlining dates and details of planned remote vaccination implementation, etc., would serve to improve public awareness. We further recommend considering measures to mitigate the potential risks of hunters consuming meat within 21 days of vaccination if a remote-delivery vaccination was employed in the field without the control of a capture facility.

### **Closing**

We appreciate the opportunity to participate in the review of the Final EIS. Thank you for considering our input. If we may provide further explanation of our comments during this stage of your planning process, please contact Melanie Wasco of my staff at (303) 312-6540. Alternatively, I can be reached at (303) 312-6704.

Sincerely,

*for* 

Philip S. Strobel  
Acting Director  
NEPA Compliance and Review Program  
Office of Ecosystems Protection and Remediation

